The JOURNAL of GEOGRAPHY

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VOLUME XLVIII FEBRUARY, 1949 NUMBER 2

ON THE TREATMENT OF CONTROVERSIAL TOPICS IN GEOGRAPHY[1]

PRESTON E. JAMES
Syracuse University

Sooner or later every teacher of human geography has to deal with a topic which is controversial. I am not referring to topics which cause geographers to argue with each other, but rather to those topics which involve the teacher in differences of judgment with the non-professional public. There has been a considerable amount of discussion of this subject,[2] including a session of the "Town Meeting of the Air." My only excuse for adding to the volume of verbiage so far expended inconclusively on this question is that I may be able to discuss the problem more specifically in terms of the teacher of geography, as distinguished from teachers in general. I am going to develop two themes: first, that experience in handling topics that were once controversial in the natural science aspects of our field is no guide to what we may do in human geography; and second, that our handling of controversial topics in economic, social, political, or regional geography can be most effective if we rigorously avoid taking sides.

EXPERIENCE WITH CONTROVERSIAL TOPICS

The history of education includes some striking pages on the treatment of controversial topics. We recall at once the difficulties in which teachers of natural science found themselves when they

[1] Banquet address at the annual meeting of the National Council of Geography Teachers, Chicago, November 26, 1948.

[2] Martin, J. H., and Lupone, O. J., "Social Problems, An Elementary School Fallacy," *Elementary School Journal,* Vol. 42, 1942: 664-668.

Chrisman, Richard, "Panel Discussions in Teaching Controversial Subjects," *Social Education,* Vol. 10, 1946: 314-316.

Gross, R. E. "Teaching Controversial Issues Can Be Fun," *Social Education,* Vol. 12, 1948: 259-260.

first presented modern concepts concerning the nature of the physical world. Perhaps we do not realize how recently such topics have been controversial, because today the right of the teacher to present established scientific principles is well established—at least in the so-called free societies. Yet less than fifty years ago there are cases where persons teaching the glacial theory of the origin of certain sand and gravel deposits were subject to bitter attack. And even more recently teachers of biology have been condemned in court for teaching the theory of evolution.

These were all natural science teachers. It was possible for them to take a highly impersonal position toward their subject matter, to remain strictly outside of the physical or biological processes they were discussing. The principles they taught were all subject to repeated testing by rigidly controlled methods. Furthermore, any two persons using the same methods and the same observations could not fail to reach identical conclusions. So conclusive was the evidence offered by objective science that the opinions of the non-professional public came to be recognized as irrelevant—and by the non-professional public itself. So the teacher of natural science could afford to endure uninformed controversy, arguing only for the right to teach according to conscience. Basically, the issues were never decided by popular vote: rather the conclusions of science were so specific and so easily demonstrated that public opinion ceased to be of importance.

But in human affairs the issues are decided by public opinion. No compelling principles of human behavior have yet been formulated which have the wide applicability of the principles of physics, chemistry, and biology. Even granting the recognition of the element of uncertainty in modern physics which makes it impossible to specify both the position and the velocity of a unit of matter, nevertheless this uncertainty is not at all of the same order as that which accompanies any of the generalizations regarding human behavior. Here man is engaged in studying man. The observer is a part of the process he is observing; even the kinds of things he observes are conditioned by his social environment, his preconceptions. In every formulation of principles in social science, intuitive judgment plays a major part[3]—so much so that in order to evaluate the results of investigations of human behavior it is essential to

[3] Lorimer, Frank, "The Differentiation of Logical Levels in Social Inquiry," *American Sociological Review*, Vol. 12, 1947: 507-514.

be informed concerning the personality of the investigator. All this has been recently and strikingly demonstrated in the failure of the public opinion polls in the election, and in a way which the non-professional public will not soon forget. In the last analysis, in the fields of economic, social, and political phenomena, the truth is often determined by what men think is the truth.

This places the teacher of topics dealing with man in a much more vulnerable position on controversial matters than the teacher of natural science topics ever was. The difference seems to be inherent in the nature of social science. The fact is that the principles developed by natural science are established only with rigorously controlled logical systems, requiring the services of highly trained workers using methods totally unknown to the non-professional public; but when the principles are established and taught, any one can apply them to every day natural phenomena—and when such application is correctly made by different people under defined conditions the results cannot fail to be the same. Every college freshman does this in the science laboratories. In contrast, the principles of social science are only obvious generalizations which any person with keen intuitive judgment could formulate without highly specialized training; yet to apply these principles to every day life in such a way that any two people reach the same inevitable conclusions is quite impossible. Teachers, therefore, are subject to challenge by the non-professional public, and can find no such unanswerable proof of the correctness of their principles as can be presented by the teachers of natural science. In fact, there are many people of keen intuition not professionally trained, whose judgments on economic, political, or social questions have equal or even greater validity than the judgments of persons holding advanced degrees in some phase of social science. Even the economists, who have been more successful than most other social scientists in casting a spell of the mystical about their concepts and methods, do not escape the challenge of practical men of business.

Geography teachers deal partly with man and his works and partly with natural phenomena. In so far as they remain in the natural science sector, they can claim the same kind of immunity to attack enjoyed by other natural scientists. They can discuss the causes of rainfall, even the causes of soil erosion, without meeting the challenge of non-professional opinion. And some of our colleagues may be inclined to spend most of their time in this rela-

tively safe part of our field, indulging in only minor sorties into the wide open spaces where human problems are involved. But others will think of geography primarily as a social science, and will wish to make the kind of contribution that is the unique function of geography to make to the challenging and highly controversial topics of our time. This will inevitably expose them to direct challenge and perhaps even attack from non-professionals; and from challenges and attacks of this sort there can be no such claim of immunity as the natural science teacher enjoys.

The Clarification of Issues

Most of the topics which are highly controversial have to do with problems of public policy. In our society public policy is determined by the elected representatives of the people, or by officers appointed by them and responsible to them—and, of course, ultimately by the people themselves thru the ballot box. Every citizen has the right and duty to form an opinion on matters of policy and to express that opinion. Teachers of geography are also citizens, with the same duty with respect to controversial issues that all citizens have.

The real problem arises when geography teachers, in their professional capacities, take stands on public issues, with the implication that their professional training and experience entitles them to an immunity from non-professional attack. If the foregoing contrast between the natural science teacher and the teacher who deals with man and his institutions is correctly drawn, then the latter is definitely not immune from the attack of those persons who have arrived at different conclusions. The geography teacher is a part of the process by which the course of human events is determined, whereas the natural science teacher is entirely outside of the processes which determine physical or biological events. How, then, can the geography teacher treat controversial topics without being involved in debate or dispute? How can a professionally trained teacher bring geographic methods and concepts to bear on issues of public policy or business policy and at the same time avoid direct controversy?

In my opinion, if the teacher sticks to teaching the problem will in large measure be solved. There is no question that, as a citizen, the geography teacher has the duty and the responsibility of making a choice between alternative policies and expressing that

choice thru the ballot. But in his or her professional capacity the geography teacher should rigorously refrain from teaching that any one of the alternative policies is right or wrong. Rather, the geography teacher should attempt to clarify the issues involved in policy decisions: to analyze the complex of conflicting forces and processes which have produced the problem; to forecast the consequences of alternative courses of action or inaction; to identify and define policy problems before the non-professional public is aware of them. These are the functions of a teacher. These are the functions which are carried on at staff level in a military organization, or by civilian experts appointed to advise responsible officials in government or business, or by those who work in the more conventional kind of classroom.

But, you will say, the teacher who clarifies issues will inevitably lean toward a particular solution, so that this form of teaching will, in fact, have the force of a direct recommendation. This is granted. In fact, the purpose of attempting to state in unambiguous terms what issues are involved in making a selection between alternative policies is to point out solutions. Yet there are two quite different ways of pointing out solutions: one is to state the policy chosen and then to marshal arguments to support the choice; the other is to make an analysis of the issues, and let the analysis point to the solution. In the first case, the geography teacher is debating as a citizen; in the second case, the geography teacher is performing the function of a professional instructor. It is my theme that when a geography teacher, as such, takes a stand in a debate on public issues, he places himself—and his profession—in a vulnerable position. Quite naturally, those who disagree with the teacher can claim that the weight and influence of professional position is being used unfairly. But if the teacher avoids debate, and avoids a direct statement of the policy selected, and attempts only to clarify the issues involved in the policy decision, then a much greater degree of immunity from public attack can be claimed.

THE JACKSON HOLE QUESTION

Three specific examples will make this distinction between debate and instruction clearer. The first of these examples has to do with a controversy that has raged for many years and still rages concerning the proper disposition of private and public lands in Jackson Hole.

The Jackson Hole country is a mountain basin in northwestern Wyoming, just south of Yellowstone Park. It is surrounded by some of the most gorgeous mountain scenery this continent affords, and, being off the main routes of travel thru the mountains, it offers refuge for such a variety of game animals that it has long been a favorite region for hunters. The terraces which make up the basin floor along the headwaters of the Snake River are so gravelly that irrigation water rapidly seeps away, and the preparation of summer alfalfa fields is restricted to a few places where the basin material is silty. But the basin is so high that it is near the limit for crops—even potatoes get nipped from time to time. The chief use of the farm land in the basin is for hay which is fed to stock during the long cold and very snowy winters. Meanwhile, in the mountains around the basin are excellent summer pastures for cattle and sheep.

Into this spectacular country came two very different groups of people. The ranchers came mostly from the Idaho side of the Tetons. They marked off the basin into ranches, irrigated the physically suitable spots, and raised hay. They ran their cattle in the mountains during the summer and brought them back to the basin for the winter. The market for cattle was at the railhead in Idaho, across the mountains. The United States Forest Service found that the cattle and sheep ranges in the mountains were not carrying their full capacity of grazing animals. Since the number of animals that can graze the mountain pastures in summer is determined by the number that can be fed in winter in the basin, the Forest Service drew up a plan to increase the number of ranchers and the extent of irrigated hay lands.

The other group of people included the tourists and dudes. The ranchers themselves brought in the dudes because they found that caring for easterners on vacation brought them a more substantial and dependable income than selling cattle alone—and the two types of business could be easily combined. Jackson Hole became one of the major dude ranch areas of the west. And many tourists who visited Yellowstone Park, to the north, came out of Yellowstone by the southern route thru Jackson Hole. The town of Jackson became a kind of movie set, with gambling dens and saloons, and people dressed up in cowboy costumes, just like the movies, so that the innocent touring public could be given just what it wanted. But many of those who came for recreation wanted the mountains unspoiled, the scenery just as it was painted in spectacular lines

by Nature. These people built a little chapel out of logs. On the altar stands a simple cross, and behind it a huge window, framing the Teton Peaks in the background. It is one of the most beautiful chapels in America. And among those who came to worship was John D. Rockefeller, Jr.

Mr. Rockefeller, with the help of officials of the National Park Service, conceived the idea of making Jackson Hole a great game preserve—a place where elk and other wild animals could live with a minimum of interference by man, a place where people who loved untouched nature could come for recreation. Mr. Rockefeller established a company to purchase the land already laid out in ranches and, eventually, to turn these lands over to the National Park Service as a donation.

The result was controversy—not only between the ranchers and the dudes, but also now, between two agencies of the federal government each with a master plan for the best development of the region. Congressional committees from Washington, with all expenses for the members, could travel to the region in summer—never in winter—to hold hearings. Irate citizens could give testimony about the nefarious activities of Mr. Rockefeller, or about the insidious attempts of the Forest Service to take land from the public domain and establish more ranchers in the basin, thus spoiling the fair face of Nature for all time. Much heat and little light. The State of Wyoming was worried because already the federal government had taken a huge proportion of its territory and removed it from the state tax rolls. People were so worked up that whenever there was debate or discussion, it was always with anger and bitterness.

A geography teacher can make a contribution at this point.[4] If the geography teacher had been holding classes in Wyoming, this very hot public issue would have been a controversial topic of explosive character. Since the geography teacher was holding classes a long way from Wyoming, what he had to say about the Jackson Hole question created scarcely a stir; but the things that were written and published were aimed in part, at the instruction of the people of Wyoming, and of the elected representatives of the people of the whole country who were responsible for arriving at some kind of a choice between the alternative policies.

There was no need to recommend one or the other policy. The

[4] James, Preston E., "Regional Planning in the Jackson Hole Country," *Geographical Review*, Vol. 26, 1936: 439-453.

recommendation would, obviously, result from the prejudices and preconceptions brought to the study. But the consequences of the two policies could be forecast. The point could be made that if a compromise was sought in which the northern half of the basin was returned to its natural state as a game refuge, while the southern part was maintained as private ranch land, neither plan could possibly succeed. For under those circumstances the game would not have enough winter grazing land and would overrun the ranches in the south with their inviting hay stacks; and the ranches in half the basin could not provide enough winter feed for more than a fraction of the cattle that could be carried in the national forests during the summer. It could be pointed out that the places where the terrace lands in the basin had enough silt in them to make irrigation possible were not very extensive, and that some of these places were in the north, some in the south. So neither plan would work if there was a compromise of this sort. A geographer who analyzed, in this way, with descriptive text and maps, the significance of the area differences with respect to the problem of public policy would not be entering into debate, would not, in fact, be entering into heated discussion or argument. But he would have considerable influence thru his attempt to make the issues of the complex situation clear to those who were responsible for the final decision. Unlike Bernard DeVoto's recent articles on the misuse of range lands in the west, the analysis of issues involved in alternative policies would not arouse resentment and dispute among those who differ. Instruction is widely appreciated, the position of the instructor is relatively immune from attack, and his actual influence on the decision much greater than it would be if he took sides.

The Argentine Question

Another example of the distinction between instruction and debate is offered by the problem of our foreign relations with Argentina. Here is another, but quite different kind of policy decision that must be made. The decision is made somewhere in the complex confines of the Department of State, but those who have penetrated the secret recesses of this agency report, on emerging, that public opinion does every now and then have an influence on decisions of policy. Officials have been seen reading the newspapers. Is American public opinion ready to adopt a policy to guide our dealings

with Argentina? The fact is that the American public is scarcely aware of the existence of alternatives. It has heard that Sr. Perón is pro-Nazi, and that Eva is a movie queen. The voting public, if it were asked to vote, would be divided among those who would at once drop an atomic bomb on Buenos Aires and those who would stay strictly away from all those nasty foreigners. The many in between would have no opinion. A few would know that Argentina is in South America—but they would be confused because they have heard that all the good neighbors love democracy. No wonder the puzzled personalities of the State Department seem to move in all directions at once. They—and the American public—are badly in need of the services of geography teachers who will clarify the issues involved in this important decision of policy.

What are the issues in the Argentine problem? First of all we need to ask ourselves what it is we want in Latin America in general, or specifically in Argentina. A geographer, whose business it is to analyze the significance of differences from place to place on the earth, will want to know whether the objectives of our foreign policy should be the same everywhere—as some well-meaning citizens demand. He would point out that if you stand in the United States and face toward any of the possible centers of economic, political, or military power elsewhere in the world you would inevitably face toward the northwest, north, or northeast. This is a fact of global geography which is taught in elementary classes—but not taught well enough because many, many people reach years of responsibility without remembering it. Latin America, according to this concept is in the rear of our international position. This does not mean that Latin America is inferior, or backward, or behind us in any sense but geographically. It is a fact of world geography that the position of the United States with reference to other great or potentially great concentrations of people and production is such that Latin America is in our rear. What we want there is security. And since Latin America has certain critical raw materials needed in industry, we need the cooperation of the Latin Americans in supplying them to us. And since some parts of Latin America are reached without too much difficulty from other parts of the world, and since the world we live in is at the moment one of serious potential conflict, we need to have the cooperation of the Latin Americans in defending our rear. If during a war, whether cold or hot, the eye of public opinion or of responsible

officials, is taken off conditions on our front by turmoil in the rear, then we have not gained all that we might want in dealing with the rear.

Furthermore, of all the countries in Latin America, Argentina is the most remote. Richard Edes Harrison described it as a dagger pointed at the heart of Antarctica. If the Humid Pampa were not one of the lowest-cost producers of meat and grain in a world that badly needs low-cost meat and grain, we would not have to worry at any of the political posturings or autarchic economic absurdities perpetrated on the politically immature Argentines. What we want in Argentina is the same as what we want thruout the hemisphere —we want friendly cooperation and security from attack. But the way to get these results differs from place to place, for no two countries in Latin America are alike or can respond in the same way to a so-called consistent foreign policy. We need to know what forces are in conflict in each country—not just give them a blanket characterization such as communist, nazi, or democratic. These words only confuse the facts when they are applied to countries like those of the good neighborhood. And in remote Argentina the big conflict is not between fascism and democracy; it is between the pre-industrial and the industrial way of living, with all that this contrast implies. The conflict needs our sympathetic understanding, not our irrelevant tirades against dictators.

And this raises a very interesting policy problem: what is the best way to insure the friendly cooperation of the Latin Americans? In many of the Latin American countries including Argentina, if we want security today and for the next decade or so, we want to support the established political leaders, the traditional political processes, and avoid giving support to rising dissident elements that are a reflection of democratic ferment and that are often branded as communist. We must realize that of all the things that Latin American political leaders fear—in so far as one can generalize about them—the major fear is the rise of the common man to power. This means either democracy or communism. Since the rise of the common man to power can be forecast as a consequence of better diet and health, better wages in industrialized areas, and of the basic attitudes of the Latin American people, it follows that if we want friendly cooperation and security from attack thirty or forty years from now, we should support these very dissident elements which threaten the peace and security of the hemisphere today.

These are the issues involved in the selection of policy. Without arguing for or against any specific policy, the geography teacher can make the issues clear enough so that the overworked officials who have to decide what to do from day to day can at least know what they are deciding. And the general public, by whose aggregate of intuitive judgments the course of action is finally decided, will be able to reach a clearer decision as a result of such instruction.

THE QUESTION OF THE SOVIET UNION

The most controversial topic we are faced with today involves the question of what we shall teach about the Soviet Union. We can, of course, avoid the issue by teaching almost nothing about it. This gives us a certain immunity from the danger of public attack or investigation by any of those committees of the federal or state governments that would protect us from the evils of unpatriotic thoughts or ideas. It may be safer to cover the Soviet Union in one lesson and then go on to the firmer ground of nature and man in Finland. But if we do this we are not keeping faith with our responsibilities—for never was there more pressing need for the careful study of the geography of a foreign country. In this way lies our greatest hope for peace, or for success in conflict. There are many issues of public policy that can be clarified by a study of Soviet geography; and in spite of the danger of adverse criticism or even violent attack, geography teachers should devote many classroom hours of careful instruction to this complex country.

If we could restrict what we teach to pure facts, this, too, would permit us to avoid some of the controversy with which work on the Soviet Union will inevitably involve us. But we cannot do this. In the first place the facts we choose to present will be subject to criticism by those who think we should have presented other facts; and in the second place, geography is much more than a presentation of selected facts—it is an interpretation of the meaning of these facts, both as to causes and consequences. For example, how are we to describe the natural resources of the Soviet Union? What is a natural resource? In the capitalist world it is an earth material of sufficient quality and quantity and in a location such as to permit its profitable exploitation by private interests. In the Soviet Union it is an earth material which is considered by a small ruling clique to be socially necessary or desirable and which can

be exploited and brought to the place where it is to be used without the expenditure of too many man-hours of labor. Cost in the capitalist sense is irrelevant.

For another example, consider the production of rubber from the desert shrub—guayule. In the capitalist world production of rubber from this source is considered too costly to be profitable without subsidy from the government. In the Soviet world, where cost is counted in terms of labor, it may be just as economic to derive rubber from this source as it used to be for the Aztecs who made their rubber balls out of guayule.

What are facts, then? Natural resources, soil, climate, water, plants, and all the other "facts" of the physical and biological environment have quite different meanings in a capitalist society and in a soviet society. At least in the more advanced presentation of Soviet geography, if we are to teach anything important, we cannot—for patriotic motives—interpret the meaning of geographic features in capitalist terms, because to do so would be to arrive at very wrong estimates of the significance of geographic conditions in the Soviet area.

At the more elementary level, before it is possible or desirable to teach the subtleties of economic and social ideology, where basic geographic concepts are being presented, the problem is somewhat simpler. Here it is largely a question of the time devoted to a study of the Soviet Union—and time can be translated into the degree of detail with which the country is covered. Considering the importance of knowing about the Soviet Union today, it seems clear to me that we as geography teachers would be shirking our responsibilities if we fail to cover it with a degree of detail approximating that of our treatment of Latin America. If we discuss the division of land in the Argentine Humid Pampa into large private estates, and the meaning of this in terms of agriculture and density of people, we cannot fail to discuss the existence of the large collective farms in the Soviet wheat belt. And it would be important, also, to point out the difference in standard of living achieved by the different ways of living on the earth.

There will be situations in which the teacher of geography dealing with the Soviet Union will present what some Americans will call a biased picture. Some self-styled "hundred percent" Americans seem to be in close agreement with the Russian communists—that the only proper way to express patriotism is to make violently

disparaging remarks about other countries and other peoples. In fact, one well-known American text dealing at the college level with certain geographic aspects of the Soviet Union was listed by a congressional committee as "presenting too favorable a picture of the U.S.S.R." Yet the only basis on which a teacher of geography can claim any kind of professional immunity from such attacks is that he has carefully avoided taking sides and entering a debate.

This is a very important point, and I want to make myself entirely clear on it. We cannot adopt the old Nazi method of writing geography as *geopolitik,* even when we are dealing with a country which seems to have adopted a hostile policy toward us. We cannot do this for at least two reasons: first, it would be a frightful abandonment of professional standards; and second, it would be highly ineffective in reaching the ends we all desire. As George Cressey once put it, the ideal would be to teach Soviet geography in terms which would be equally acceptable in either country. This means that our aim must be to clarify the issues in conflict between us, not to present our side of the conflict as an argument. The blindness of those foreign people who have been brought up on this kind of argumentative treatment of other countries was one of the major weaknesses of the Germans, and it is a major weakness of the Soviets today. From the kind of instruction concerning the Soviet Union which makes clear the issues involved in alternative policies, people who are brought up in an effectively functioning democracy, as we use that term, could not fail to reach sound conclusions.

PROFESSIONAL IMMUNITY

We are teachers of geography dealing with man on the earth and covering that vital sector of American education in which the meaning of differences from place to place on the earth is made clear. Again and again we must deal clearly and with professional honesty with topics which are controversial. The more effectively we teach our subject, the more directly we may be challenged by those well-meaning citizens who think that an ideology, such as communism, constitutes a persuasive danger to our way of living, and who would attack it by proscribing all mention of it. It is our stand that such dangers are best attacked by teaching about them—by making clear the issues in conflict, and the alternatives to which

different policies might lead us. As teachers of geography we have a responsibility to society to do our part in making the complex problems of modern life so clear that the intuitive judgments of millions of Americans can be expressed freely without the hindrance of propaganda, prejudice, and preconception.

In the exercise of this high duty we should be quite clear about the nature of our concepts and our subject matter. Because of the inherent character of human geography, and of social science in general, there are no principles of such direct applicability as those of natural science—chiefly because of the importance of intuitive judgment in their formulation. The teacher, then, who follows the lead of the natural sciences in using professional prestige and influence to support the direct choice between alternative policies in the economic, social, or political fields, is in a vulnerable spot. The dignity of the professional contribution to controversial topics is best maintained by avoiding dispute and debate, and by attempting to identify and present in unambiguous terms the issues and consequences—and to present these clarifications as a teacher and not as a supporter of one or another solution. In so far as we adopt this stand, and live up to it, I believe we are in a position to claim from the non-professional public an immunity from attack, restriction, or other hindrance to the maintenance of what we conceive to be the highest professional standards.

PLANETARY THROMBOSIS

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What Planetary Thrombosis Is

When a human being is afflicted with a thrombosis he is said to be suffering from a stoppage of an artery; a derangement of the normal flow of the life-giving blood. The patient suffers from weakness and loss of appetite and if the seat of trouble is an artery in the brain, much more serious symptoms may occur.

The human race, in its political organization into states, from time to time suffers stoppages of the normal movement of trade, industry and other economic and cultural activities. When these stoppages are serious, the world wide disturbances may be likened

unto a thrombosis in the human system and the symptoms are wars and depressions, famines and plagues.

World War II was a thrombosis that has affected to a greater or lesser degree every part of the inhabited globe. "From Greenland's icy mountains to India's coral strand"—to quote the old hymn—the symptoms of pain and fever and blood letting—planetary emboli—have appeared, and are still appearing as evidence that the nations of the world are in a sadly sick and distressed state of political health.

It is our purpose to consider a few of the areas around the planet where pathogenic symptoms occur largely as a result of the thrombosis that we call World War II.

INDIA—A STAGGERING EMBOLUS

Let us take a look at India. With the dissolving of the Mogul Empire in the 18th and 19th centuries England became the heir of the pieces. Bit by bit British India was built up and a firm shadow of authority stretched over the lands of the Rajahs and Maharajahs, those 562 wealthy anachronisms who have much complicated India's problems. The fragments that fell to Portugal and France are too unimportant to warrant consideration here.

With the rise of nationalism, the growth of the great Asiatic powers, the U.S.S.R. and Japan, and the shock of World War II the world has seen the emergence of not one, but two Indian Dominions; Hindu India and Moslem Pakistan.

The religious differences, including a whole complex of divergent folkways and customs are one of the keys to an understanding of the India of today. Within Moslem Pakistan are some 19 million Hindus and within Hindu India are 38 million Moslems. Rather large groups of Sikhs are found in both Dominions. Besides these, sizeable numbers of Christians, Jains, Parsis and Animists are scattered thruout the two new countries.

An understanding of this religious grouping which is the basis of separation of the two states is necessary to an understanding of present day India. Further, it is essential to appreciate the effect upon the lives of India's millions, of their religion. Probably in no other country of the world does religion influence so thoroly man's everyday life; not only his politics but his food, clothing, working habits, recreation—everything he does and thinks are closely related to his religion. And his religion the average Indian takes most seriously.

To further analyze the factors involved in the political background of Hindustan (Union of India) and Pakistan, the geographer must inquire into the natural resources of the two countries.

Within Pakistan, a territory of 300,000 square miles, some 70 million people find themselves with very little mineral wealth except for the small output of petroleum in the Punjab. In their wheat and cotton and jute they have a possible basis for profitable exchange with India and Europe but all economic development is likely to be seriously hindered by the nature of their country. No other large modern state is like Pakistan split into two sections separated by nearly 900 miles of Hindu India. A peaceful arrangement for the exchange of people, goods, and ideas across this strip is to be ardently hoped for. Whether or not it can be readily achieved is a moot question.

Hindustan, now that Hyderabad has been brought into the Union, has some 1,300,000 square miles, and its 300,000,000 people have most of India's mineral resources—the iron, the manganese, the gold and the tungsten. Along the flanks of the towering Himalayas it possesses the lion's share of the available water-power.

The great problem facing both dominions is its population itself. It is bad enough to have almost every conceivable religion, race, language and cultural difference, but the size and rate of growth of the population are so staggering that they dwarf all other problems. In spite of a high death rate, (23 per 1000) and a life expectancy at birth of only 27 years (63 in the U.S.A.), the birthrate of about 33 per 1000 increases the population 4,000,000 yearly. Four million more people of whom two-fifths will always be undernourished and one-fifth very much undernourished!

This is the great problem of all India—and of the world. There seems to be no place left on the planet for this excess population to move to. And if 20,000,000 should migrate to Australia or Africa —or Illinois—in five short years or less the population pressure would again be just as acute. One of the tragedies of India is that every new sewer system that checks an epidemic, every new hospital installed, every new life saving drug introduced—all these humanitarian advances simply amplify the greatest tragedy of all —the rapid and seemingly unending increase of the population further and further above the saturation point. In these bitter facts lie the seeds of famines, wars, and world wide epidemics. For disease is no respecter of international boundaries.

Even if Hindustan and Pakistan can solve what appears to be an almost unsolvable problem for this century, they may have to face an international situation of great difficulty. Burma, to the southeast, is in a state of chronic unrest. Eastward over the Himalayas lies China and that huge giant is too sick to warrant very hopeful predictions for its immediate future. To the north lies Tibet—cold, empty, peaceful—but north of it lies the U.S.S.R. and that fact contains a possible menace. And over the Kyber pass lies Afghanistan and the Moslem world. This conjures up all sorts of political possibilities.

Altogether too sketchily, these are some of the realities in the great sub-continent. These the geographer should know. These facts and many others, must be known and evaluated objectively and with vision, before any intelligent judgment on India can be formed. They must be weighed by any statesman who attempts to prescribe a treatment for India's thrombosis.

Let us turn to another area of this world where currently there appears serious symptoms of thrombosis: Palestine.

WHERE WATER IS THE KEY

The present political situation in this most distressed part of the world is well known to all of you and it is beyond our purpose to do more than sketch it. We are witnessing the establishment of a Jewish state, Israel, upon part of the ancient Hebrew kingdom; a state carved out of the crumbling Turkish Empire and accomplished by displacing an Arab population. It is justified by the Balfour Declaration which is interpreted to grant a homeland out of an enemy's territory before that land had been conquered.

Our sympathies are with the Jews of Europe; homeless, helpless victim's of Hitler's sadistic regime. The smart cleanliness of Jewish Tel Aviv, in contrast to the picturesque filth of Arab Jaffa, appeals strongly to the American.

The geographer, however, should not be swayed either by sympathy or prejudice but rather should consider the problem of the Jewish state, its capabilities and its resources, from a purely objective viewpoint. It is these basic considerations that appeal so strongly to the geographer which appear to have been overlooked by the general public in the welter of racial, religious, political and "oily" arguments that have filled our newspapers and journals for so many years.

There are three geographic factors which it is intended to point

out here. These bear on the question of whether Israel can possibly solve the problem of serving as a homeland for the Jewish people. The feasibility of this problem can be considered without touching upon the pros and cons of the political or ethical questions.

There is first the problem of the population in relation to the available area. It is difficult to determine the present day population of Palestine and still less of the State of Israel itself. In 1942 there seems to have been an approximate total of 1,600,000 persons. Of these about 990,000 or 62 per cent were Arab Moslems; 130,000 or 8 per cent were Christians, largely of Arab stock, and 480,000 or 30 per cent were Jews, most of whom had arrived from Europe in the last few decades. The first Palestine census of 1922 reported only 84,000 Jews. The number of Jews entering since the war is not known; conservatively it is another 275,000. The present day total would be about 1,900,000 with 750,000 of them being Jews.

The British Mandated territory of Palestine covered an area of just over 10,000 square miles, approximately that of Maryland. Israel, with admittedly undetermined boundaries, occupies slightly over half of Palestine if the desert of Negeb is included. On 5,500 square miles live nearly all of the 750,000 Jews plus another 100,000 to 200,000 Moslems, Christians, Druses and others—say 900,000 altogether. Without the Negeb—where only a very few thousand can live at present—it means 900,000 living on roughly 2,500 square miles. This gives a density of 360 per square mile! This for an agricultural people! And an agriculture that is largely citrus fruits and olives! With all the good will in the world and all the best wishes for success, how can the geographer possibly see how the 1,000,000 or more Jews whom we are told would migrate there from Europe can also make a living? How can such an overpopulated state become self supporting?

We are told that this will be done by industrialization—a magic word in certain circles today. Aside from inherent difficulties in converting urban Europeans into Mediterranean farmers; apart from problems of limited port facilities, of competition for the citrus and oil markets by well established areas such as California and Spain, Jamaica and Florida; disregarding such tariff walls as exist in those of the nearby state of Egypt, what possibilities for large scale industrialization does the geographer see? Frankly, very few.

The basis of all industry is power. Coal, oil and waterpower are

its present day sources. There is neither coal nor oil to be found in Israel or elsewhere in Palestine. Except the possibility of developing the Jordan River sites, large scale hydroelectric plants are impossible. The Palestine Electric Corporation, can it is true, provide light and some power for a limited light industry. Their power sites both at Tel Or on the Jordan and their oil generating stations at Tel Aviv, Haifa and Tiberias were made possible by foreign capital. Tentative proposals for both power and irrigation canals contemplate many times the expenditure of $12,000,000 which the existing plants cost. Industrialization aside from power requires raw materials—metals, coal, fibers, wood—products that can be processed for world markets. Israel possesses none of these. Its climate, area and population density, all preclude the possibility of extensive forests and efficiently check widespread cotton or wool production. There is a possibility of silk being manufactured. It requires limited power and mulberries have been cultivated since early in the Middle Ages. Along El Ghor—the rift valley of the Jordan—are workable deposits of salt, gypsum, sulphur, potash, and other minerals. Some of these deposits are not in Israel, however. And at best they can only very partially serve as the basis for an industrialized state. Abundant limestones for building purposes and cement exist. The geographer, weighing the known resources of Israel and considering its potential population and its position in relation to world markets and producing areas, cannot help but be very dubious as to the possibility of the country becoming economically self-sufficient.

The geographer turns to consider another element in the environment—water. Needed for all industry, and even more for all agriculture, is water. In a land such as Palestine it becomes the key to all successful large scale colonization and it is a factor which is almost never even mentioned when the problems of the new state are being discussed.

In the division of Palestine into Jewish and Arab states, the areas with the heavier rainfall fall largely to Israel. From the Plain of Acre, north of Haifa, to that of Lydda, south of Jaffa, Israel enjoys the typical Mediterranean climate, with an average of 24 inches rainfall annually. But nearly all of this falls in the winter months and frequently in violent and destructive showers. Much of the Negeb has less than two inches annually and none of it more than eight. The Biblical references to Palestine as a "land

flowing with milk and honey'' can well be believed—but only if you have just come up into Palestine from the parched sands and rocks of the Sinai Desert and have been sweltering under a temperature of 115°F. Compared with the green fields of southern England, or our lush prairie states, Palestine is at best extremely marginal land.

Obviously with a low and highly seasonal rainfall, irrigation is necessary. Already most of the coastal plain is irrigated, largely from wells. British engineers gave very discouraging reports as to the possibilities of large scale irrigation works along the Jordan—the only river. The number of wells used for irrigation in all Palestine (largely in Israel) is around 3,000. Many are deep and very costly, others produce waters with high mineral content both carbonates, and chlorides. Some soils under irrigation have already suffered from excessive salts and the citrus groves near Gaza show the effects in stunted growth and the withering of the leaves. Furthermore the water table in the irrigated areas has already been dangerously lowered and the sinking of new wells strictly limited.

It must be noted also that the irrigated land is the better land with the richer grasses. In the seasons of greater rainfall the Arabs can find sufficient pasturage for their flocks in the drier pasturelands, but in the drier years it is essential that their sheep be driven to the better grasslands. Putting all the plains into the irrigated crops of the sedentary Jew tends to wreck an age-old system of land use and may cause untold suffering to the Nomadic Arab and his flocks. Waves of political unrest may result thruout the whole Arab world.

The precarious situation is perhaps best shown by the Tel Aviv water system. Tel Aviv, the cultural capital of Israel, houses perhaps a fifth of the total Jewish population. It obtains its water from some fifteen badly polluted rather shallow wells.

A British wartime official report discussing this bad situation states that a partial remedy, the use of water from the Auja River, is probable. The meagerness of this water supply is illustrated however, when it is pointed out that the water thus obtained would prevent its use in irrigating a badly needed 200 more acres!

It is the dramatic problem of Jew *vs.* Arab, of oil *vs.* humanitarianism; of Israel's position in the strategic ''Fertile Crescent,'' that seem to most attract the eye and ear of the American public. The

geographer must call it back to look at the earth, its water supply and the people living on it. If Israel does surmount its many external problems, to become self-sufficient it must solve these serious internal questions. Else it can exist only on the bounty of generous hearted well-wishers poured into the land from outside.

OUR U.S.A.—U.S.S.R. FRONTIER

Let us consider a third and final area where the thrombosis that was World War II has left its imprint—hitherto a land of unending peace and quiet; a land with almost no inhabitants and certainly one with little of what we call history. This area is the Soviet-American frontier; not the narrow Bering Straits alone across which Uncle Sam and Uncle Joe are unfortunately glowering at each other, but the whole vast expanse of the Arctic Ocean over which thru 160° of longitude, two cultures, two ideologies and two great masses of force, face each other. It is of this area that General H. H. Arnold said[1] "If there is a third World War, its strategic center will be the North Pole."

But little known to most of us; formerly of negligible political importance and thought to hold only slight—and these inaccessible—resources, the Arctic has suddenly loomed up before the world as one of its most critical areas. If General Arnold is right our very existence as a nation may depend upon our knowledge of the Polar north and the use to which we put that knowledge.

It is not our purpose here to attempt a survey of Arctic geography or even of all its phases which in one way or another have caused international concern. Only two aspects will be touched upon; both of which illustrate one of the points it is desired to make in this paper; the need for basic geographic knowledge in the solving of political and international problems.

The first of these is the strategic importance of the Arctic. It is generally known that the great circle routes between West Europe and the great industrial triangle of the United States pass over at least the margins of the polar area. What is not so widely known are the details of the Polar Pack, of the Greenland Ice Cap, of the climate, vegetation and relief of the continental tundras and of the strategically placed islands lying north of Eurasia and of North America. Can the Polar Pack be traversed by boats? Can it be utilized for landing fields? From where on these tundra lands

[1] (*Life:* 20 Jan. 1947):

can long range missiles best be launched? What parts, if any, of the polar waters can be navigated by warships and if so at what season? How, and where, can installations both civil and military be best placed and supplied in this great white north? These—and scores of others—are the questions which come to mind now that world events have turned attention to this part of our planet. And the briefest consideration of them will indicate that they are fundamentally geographic in character. It might well be that a geographer should be placed at every Arctic station to coordinate the observations of the geophysicist, the geologist and the meteorologist.

The second aspect of Arctic lands to be called to your attention is their mineral resources. We are witnessing more and more tension among the powers over the possession of Arctic lands, both due to an awakened sense of their strategic importance and also because their minerals are now becoming increasingly significant.

Many of the political controversies over lands in the Arctic have had minerals as their basic cause. You will recall the discussion in the early twenties between Britain and Norway over Spitzbergen coal. Recently the U.S.S.R. has entered claims. This time it is coal and position that are significant. The United States gave up its rather sketchy claims to northern Greenland in 1916; there were thought to be no minerals worth developing. It is interesting to note that Secretary Seward in the '60's tried to purchase Greenland. He had the foresight to call it the northeastern bastion of North America.

Greenland has potential iron deposits and is producing cryolite —practically 100 per cent of the world's total. And within recent months galena, 1,000,000 tons of it, has been reported just north of Scoresby Sound. This is enough to put Greenland up amongst the big lead producers—and the Danish government thinks enough of Lauge Koch's report to plan on thoro exploration of the area and of its water approaches during 1949.

To merely mention Northern Canada is to bring to mind Great Bear Lake and its uranium mine. Less well-known perhaps, are the Mackenzie Valley oil wells and those of northern Alaska. Small producers as yet, they may become of great importance to the whole north of the continent and to the rôle it seems destined to play in world affairs.

Nations do not quarrel or disagree over lands of no value. While

the Arctic remained useless, national interest in its ownership was largely academic. But now with the increased value of the area strategically and with its mineral wealth being slowly revealed, the powers are pressing land claims, even to possible lands that are yet unknown but may be discovered. Thus have arisen the "sector lines" that run to the pole itself; a principle of claiming national ownership that has been transferred to the Antarctic. As yet unknown islands in the Beaufort Sea might well be excellent forward airbases—or found to be rich in pitchblende.

WHAT TREATMENT?

The picture of the three areas—India, Palestine, the Arctic—is not altogether an optimistic one. All three are suffering, to a greater or less degree, from emboli, if we may return to our analogy of a planetary thrombosis. But there is at least some hope. Certain cases of thrombosis, we are told, are not necessarily fatal. Perhaps the thrombosis affecting these areas can be cured. In any case the only treatment known is the application of intelligence to the political problems. It may well be that the geographer will be the planetary physician of the future.

GEOGRAPHY AND WORLD AFFAIRS IN COMMUNITY EDUCATION*

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It is difficult to be a citizen of the United States these days. World leadership has been thrust upon the United States before we were ready for the responsibilities. All thru the war we kept saying that the fight for peace would be far more difficult than the military struggle—but we didn't really believe it. Now we know that we are pursued by a destiny we cannot escape. Ready or not, the United States has been handed the role of leadership in a world overflowing with troubles. All of our decisions are difficult and also somewhat dangerous. We have no choice but to work and fight for a civilization that guarantees freedom and liberty under

* Presented at the meeting of the National Council of Geography Teachers, Chicago, November, 1948.

law. It is obvious that the United States leads the world in the fight for freedom and it is also obvious that public opinion makes policy in the United States.

In a democracy such as ours, no policy can be really effective unless it has public support. This is especially true of foreign policy because Americans find it strange to be hit by something which is exploding thousands of miles away. American public opinion has progressed from its past provincialism to its present growing appreciation of world responsibility. However, in this critical era of world affairs, the United States needs the wisest possible foreign policy, supported by an intelligent, informed citizenry. If a citizen is well informed, he will be influenced less by propaganda and prejudice. If a large part of the American people were well-grounded in world issues, a steady support of the fundamental objectives of our foreign policy would be guaranteed. Secretary of State George C. Marshall said recently:[1]

> Unquestionably one of the most difficult problems relating to American foreign policy is that our international responsibilities have increased much faster than has public understanding of the many complex factors involved. Since there is no present prospect that these responsibilities will diminish, it is essential that they be matched by a commensurate growth and maturity of public opinion.
>
> The urgent need to promote public understanding of the important issues with which we are confronted calls for vigorous action by both the Government and the people.

The only way in which general public support can be obtained for our foreign policy is thru education. A well-rounded, widespread program of community education in world affairs would give us the best opportunity of preserving American principles and peace.

What role can geography play in this effort to create an informed public opinion as the democratic basis of a sound foreign policy?

Napoleon said: "The politics of all states is in their geography." This statement is an oversimplification but it is true that geography is a basic factor in the foreign policy of all nations. At every international conference geography sits in the background as a silent but a very influential member. Foreign ministers cannot avoid consideration of location, size, topography, climate and other geographic factors. As Nicholas J. Spykman put it, "Geography does not argue, it simply is."

No international settlement is valid and certainly it cannot

[1] Official statement of Secretary of State George C. Marshall, September 9, 1948.

survive very long unless it is based on a sound geographic foundation. The task of the political geographer is to uncover information relating the various geographic factors with the political activity of nations. However, if his scientific work is to have real value, he must accept additional responsibilities. As a citizen, he is especially well-equipped to stimulate the study and discussion of world affairs in his own community. Secretary Marshall, Senator Vandenberg and other leaders have stressed the importance of arousing in every well-informed individual a sense of duty to contribute toward the development of public understanding of world problems.

WHAT CAN THE INDIVIDUAL GEOGRAPHER DO?

There are numerous opportunities for the geographer to participate in community education on world affairs. I shall speak only on the approaches with which I have had direct personal experience.

1. Offer your services as a lecturer. This is most obvious and the easiest way to do something for the program which Brooks Emeny, National Foreign Policy Association president, calls "education for survival." Altho there is a reluctance on the part of many teachers and professors to get down into the public arena, it is necessary that we give up our "spectator" roles and assume responsibilities. Altho the lecture approach is the easiest, it is probably not the most effective means of obtaining understanding of world issues.

2. Present brief lecture-discussion courses at some civic center. All American communities are organized into groups of special interests such as professional, religious, cultural and social. Organizations such as the Y, the Planetarium, libraries and churches, are ideal spots for adult courses on world affairs. These groups provide the meeting room and can easily handle publicity and registration for the course.

3. Participate in a community organization whose chief objective is citizens' education in world affairs. I am thinking of organizations like the Foreign Policy Association, World Affairs Councils, Inter-American Centers, etc. Undoubtedly any individual's efforts are much more effective if funneled into a group program in world affairs. It is interesting to note that geographers have headed the work of three Foreign Policy Association branches during this past year. One of these is the new president of the Na-

tional Council of Geography Teachers, Dr. Earl B. Shaw, who is chairman of the Foreign Policy Association of Worcester, Massachusetts.

4. Organize study groups concerning specific geographic areas. Individuals in the community have special area interests such as the Far East, Western Europe or Latin America. A geographer who has a regional speciality is particularly well-equipped to lead such a study group. In order to have good discussions, the number of participants should be kept small. Altho the study group approach cannot touch many people in the community it offers an opportunity for higher level citizens' education which is likely to produce future leaders for other groups.

5. Institute a regular radio program on world problems. This may be best done by working with an organization such as the World Affairs Council, a college or a number of colleges, the Board of Education, etc. A weekly discussion program using a variety of adult participants is difficult to manage and requires a considerable amount of patience and time. It is much easier and more successful to work with students in colleges and high schools. At the present time I am working two weekly, half-hour programs in Pittsburgh. One called Student Forum is given in cooperation with the International Relations Clubs of the five colleges in Pittsburgh. The other program, Junior Town Meeting, involves students from high schools. Each of the sixteen high schools in the city offers two programs a year.

The most important contribution that the geographer can make is to get over some basic geographic facts concerning the world in which we live. The ignorance of the average citizen is colossal but fortunately his intelligence is good. Given the basic facts his response is usually excellent.

And so you can appreciate that it is difficult to be a geographer these days. The task ahead is tremendous. Yet, the geographer can gain much by full participation in a community world affairs program. He will not only be giving but he will be receiving. He will gain personal satisfaction in doing an important job.

The challenge before us is clear. The time has come for American geographers and other social scientists to meet our obligations as citizens. If we do not, all will pay the terrible price of public ignorance.

COAL SUPPLY OF THE CITY OF MILWAUKEE

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More than ninety per cent of the heat, light, and power used in the city of Milwaukee is supplied by coal or by electricity manufactured from coal.[1] Between 4,000,000 and 4,500,000 tons of coal must be imported each year for the use of Milwaukee's varied industry and the heating of its thousands of homes. This tonnage represents approximately one-half the total volume of goods handled by the port of Milwaukee.

About nine-tenths of the coal received is obtained from the Appalachian coal fields and is shipped to Milwaukee by boat from Lake Erie ports. Direct all-rail shipment from the coal fields of Indiana and Illinois accounts for most of the remainder.[2] All-rail shipment from the Appalachians also contributes to the receipts (Table 1). The purpose of this paper is to investigate sources and uses of Milwaukee's coal and the factors which cause lake-borne Appalachian coal to dominate the Milwaukee market.

MOVEMENT OF COAL TO MILWAUKEE

Coal for the lake trade comes from Pennsylvania, southern Ohio, West Virginia, and eastern Kentucky and is shipped by rail to Lake Erie ports, where it is loaded on bulk freighters for delivery to upper lake cities. Milwaukee receives coal from almost all ports on the south shore of Lake Erie, but Toledo and Sandusky ship the largest tonnage (Fig. 1). Anthracite is received only from Buffalo, Sodus Point (on Lake Ontario), Erie, and Ashtabula; the latter two also ship to Milwaukee some bituminous coal.

The southern Appalachian fields of southern West Virginia and eastern Kentucky supply the largest volume of coal for the lake trade.[3] Specific points of origin for coal arriving by cargo vessel at Milwaukee are not available since coal sent to rail heads on Lake Erie is consigned only to the general lake trade and not to the final

[1] Coal, in this instance, means both bituminous and anthracite. However, more than 90 per cent of the coal received is bituminous. Since anthracite is imported only from eastern Pennsylvania and is used exclusively for home heating, this paper deals only with bituminous coals imported from the several producing regions.

[2] Much of this is by car ferry across Lake Michigan, essentially an extension of rail movement. It is here so considered.

[3] Voskuil, W. H., "Bituminous Coal Movements in the U.S.," Geog. Rev., vol. 32, no. 1, 1942.

consumer. The southern Appalachian fields dominate this market because they produce coals of high quality for home heating and because low operating costs are made possible by thick seams and easy access to beds. They can therefore compete with northern Appalachian coals even tho greater distance from Lake Erie makes their transportation costs to the docks higher.[4]

Coal also is received at Milwaukee by all-rail shipment. The fields of Indiana and southern Illinois supply the major tonnages received by this method; however, appreciable tonnage is shipped entirely by rail from the Appalachian fields. Coal from the closest fields, in northern Illinois, does not compete in the local market because of its poor quality.

TABLE 1

SOURCES AND METHOD OF SHIPMENT OF BITUMINOUS COAL TO MILWAUKEE
(Representative Pre-War and War Years)

Year	Eastern Coals, Lake	N. Appalachian, All Rail	S. Appalachian, All Rail	N. Illinois All Rail	S. Illinois, Indiana, All Rail
1937	3,515,061	497	107,474	1,173	152,622
1944	3,682,962	*	165,095	0	415,174

* Data not available

Compiled from: U. S. War Dept., Report of Chief of Engineers, Annual. U. S. Bureau of Mines, Mineral Industry Surveys, Distribution of Coal Shipments, Monthly.

ADVANTAGES OF APPALACHIAN COAL

In addition to the fact that Appalachian coals became established in the Milwaukee market before the Indiana and Illinois fields were developed, several other factors have contributed to their continued domination of the market. Appalachian coals do not deteriorate markedly if kept from season to season. It is therefore possible to stockpile them, whereas coals from Indiana and Illinois fields can not be stored for long periods.[5] More than twice as much coal is normally shipped to Milwaukee from Indiana and Illinois during the winter months as in the summer months. The war disturbed normal movement, but in 1939 the June shipments from Illinois fields to Milwaukee were only 50 per cent of the

[4] There has been considerable litigation over these freight rates. See Mansfield, H. C., "The Lake Cargo Coal Rate Controversy," Columbia University Press, 1932.

[5] The high sulphur content of coals from Illinois and Indiana makes them more liable to weathering and spontaneous combustion when stored in the open.

average monthly shipments for the year, while the January shipments were 134 per cent of the average.

The good keeping qualities of Appalachian coal permit importation during the summer when bulk carriers can move on the lakes. Freezing of the Straits of Mackinac makes it necessary for western consumers, in order to obtain cheap lake freight rates, to

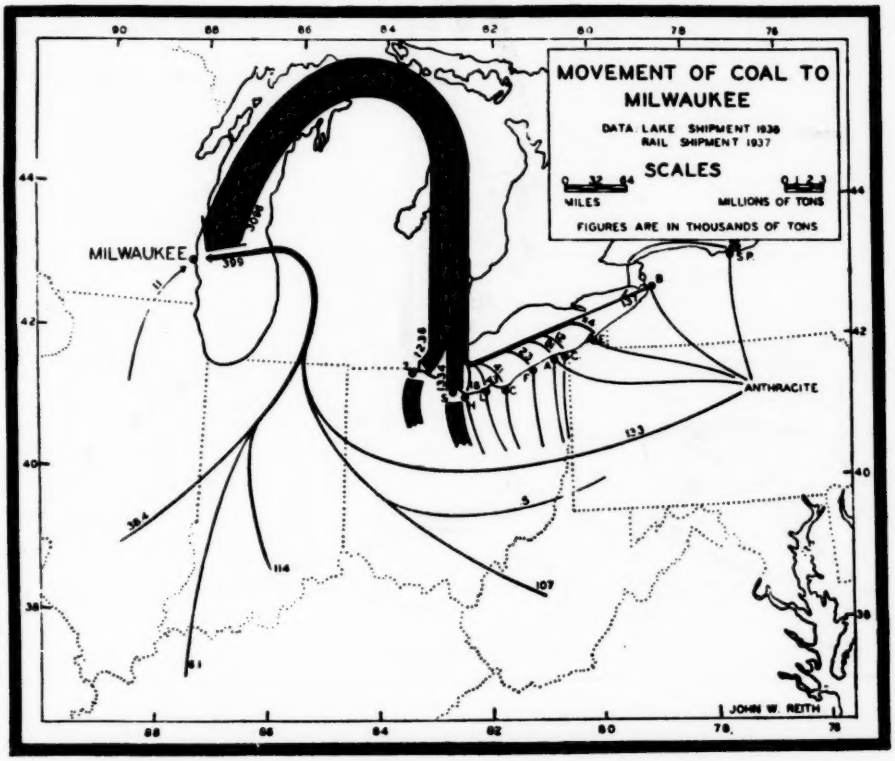

FIG. 1. The shipment of coal to Milwaukee is dominated by the ports of Toledo and Sandusky on Lake Erie. A relatively small amount moves to the city by rail and most of that across Lake Michigan by car ferry.

import their coal while the lakes are ice-free. Importation at this season has the additional advantage of lower prices of coal at the mines during the summer slack season in the eastern markets. Appalachian producers reduce the price during the summer in order to stimulate demand and keep the mines open.

Appalachian coals have other factors of quality which help them dominate the Milwaukee market. They have a much higher B.T.U. rating than do the coals of Indiana and Illinois, and also

they have a lower content of volatile matter which makes them much prized for home heating. Northern Illinois coals have low B.T.U. ratings, are high in volatile matter, and deteriorate in storage. Coals from southern Illinois and Indiana are of better quality than those from northern Illinois. They generally have a

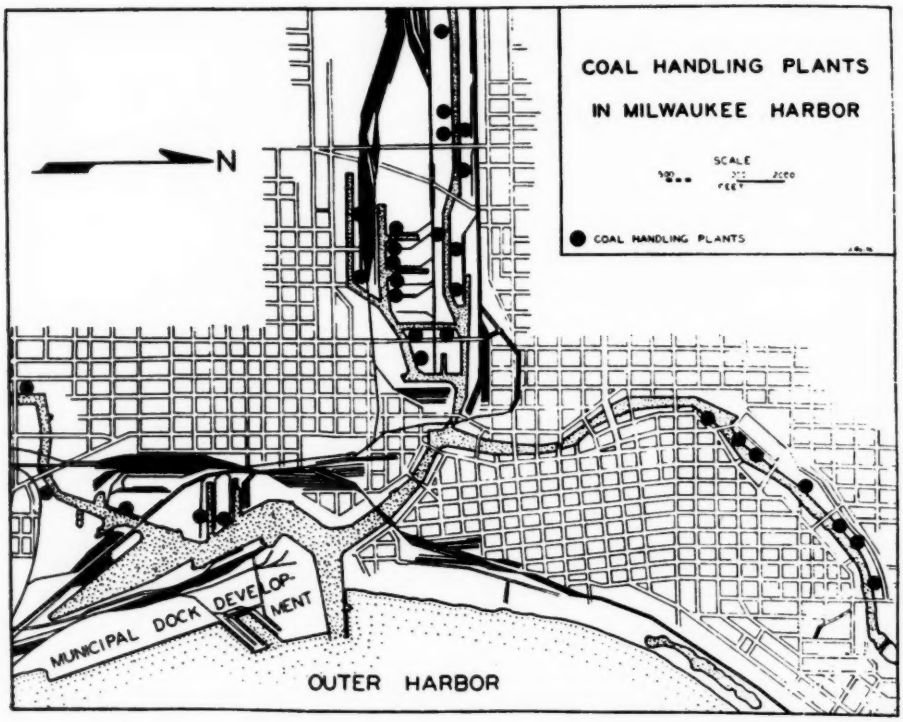

Fig. 2. It is proposed to move the coal handling plants from their present scattered locations to the Municipal Docks being developed in the outer harbor. However the present coal handling plants have advantages in final distribution of the coal not yet achieved by the proposed storage areas.

higher B.T.U. content, lower volatility, and will store better. However, none of the Illinois and Indiana coals make good coke. Since the Appalachian fields furnish good coking coal, needed to make producer gas, this results in a large importation for that purpose alone.

Perhaps the most important factor which influences domination of the Milwaukee market by Appalachian coals is the low cost of transport by bulk carrier on the Great Lakes. The entire cost of rail-lake movement from Pittsburgh to Milwaukee is lower than

all-rail movement from any of the closer fields except northern Illinois. This is possible because the bulk steamers which bring coal to the upper lake cities return with a load of iron ore to Lake Erie ports. Iron ore moving by rail from Lake Erie ports to the Pittsburgh-Upper Ohio Valley iron and steel region acts as a return haul for coal coming to the ports, and has been instrumental in keeping freight rates low for the rail portion of the rail-lake movement (Table 2).

TABLE 2

COAL TRANSPORTATION COSTS TO MILWAUKEE*

Pittsburgh	(rail-lake)	$2.71 /ton
Pittsburgh	(all-rail)	4.44
Southern Illinois	(all-rail)	3.18
Northern Illinois	(all-rail)	2.30
Indiana	(all-rail)	2.83

COAL HANDLING PLANTS IN MILWAUKEE

Coal arriving by either lake or rail at Milwaukee is unloaded into storage yards in the dock areas along the Menomonee, Milwaukee, and Kinnickinnic rivers (Fig. 2). Much land is needed as storage area for the huge quantities of coal which are received during the summer but not distributed until winter. Because coal handling plants are adjacent to port facilities and rail sidings and are easily accessible to trucks for local distribution, the location is excellent for coal storage. However, these advantages also make the areas valuable for industrial and commercial sites. Industries which would benefit greatly from such a location are forced to some less favored section of the city.

The Milwaukee Board of Harbor Commissioners is developing outer harbor facilities on the Municipal Docks for coal storage areas. When this project is completed, coal carriers will no longer crowd the inner harbor and land will be freed for other purposes. The new facilities being developed are not yet equal to present storage areas, particularly in accessibility by truck. The advantage of central location for local deliveries is an overpowering one. Until the proposed storage areas are made accessible by building new streets and bridges, there will be little shifting from present locations.

*These freight rates were current at the end of 1947. Several raises in the rates have occurred since the war but the differentials have not changed; increases have been made on a flat rate rather than on a percentage basis.

DISTRIBUTION OF MILWAUKEE COAL RECEIPTS

Most of the coal brought to Milwaukee is used in the immediate vicinity. However, it is estimated that 400,000 to 500,000 tons are shipped from the city.[7] Only coals for special purposes can carry the cost of shipment to more distant inland points. Direct all-rail shipment strictly limits the competitive area of lake-borne general purpose coals. Most of this shipment inland is by truck. The expense of handling coal to and from railroad cars, without counting movement to its destination, adds approximately 75¢ to the cost of shipment.

Home heating is the most important use of coal in Milwaukee, using an estimated 1,250,000 tons a year.[7] All of the anthracite and a large percentage of the bituminous is used for this purpose. Manufacture of coke and producer gas from Appalachian coking coals is estimated to use approximately 800,000 tons.[7] The gas is used locally as an illuminant and cooking fuel. Some of the coke and all of the by-product coal tar are shipped to the Chicago area where they become raw material in the steel and chemical industries.

The numerous industrial plants in Milwaukee and the several steamship and rail lines use nearly all the remaining 1,600,000 tons not otherwise allocated. It is impossible to obtain accurate estimates of their individual consumptions, but undoubtedly industrial use is 75 per cent or more of this tonnage.

SUMMARY

Since Milwaukee is singularly lacking in locally obtainable natural fuels, the cheap coal received by lake freighter supplies the local market for light, heat, and power. Milwaukee is in a favorable position to receive coal of high quality at low freight rates from the Appalachian fields. Low transportation costs have made these fuels dominant in the local market. However, as a general purpose fuel their use is restricted to the city area because transshipment costs to inland points make competition with other fuels disadvantageous.

About 10 per cent of the coal received is shipped inland for special industrial uses, but the rest is used locally. Home heating is the most important use, consuming slightly more than 30 per

[7] Personal communication from Mr. W. F. Ehman, Manager, Wisconsin Coal Bureau, Inc.

cent of the total imports. The manufacture of coke and producer gas consumes about 20 per cent. Numerous industrial plants and the several steamship and railroad lines which serve the city use the remainder.

Coal handling plants within the port district use large areas which are well adapted for industrial and commercial use. It is planned to move coal storage yards to areas less favorable for other purposes. As yet there has been little transfer to the proposed locations because the advantages which make the present areas valuable as industrial sites also make them valuable for coal storage.

SOME GENERAL CRITERIA FOR TEACHING LOCAL GEOGRAPHY*

HENRY J. WARMAN
Clark University

Local geography is regarded by most geographers as the *starting point* in geographic education. It is, *in fact,* the starting point in the geography sequence now followed in most of our grade schools. The first inklings of things geographic come to the pupils as nature study. The formal work in geography which then follows proceeds from home geography to far away lands. At the completion of the swing around the world, country by country, the geography offerings come to a decided parting of the ways. In some cases the commercial or economic phases of geography receive special attention. In others there is a return to a study of the United States in its world relationship or the Western Hemisphere. Regardless of what the contents of the various courses may be there is ample opportunity to return to the local area again and again; thus, during the entire program in geography studies, there are "repeats" on the homeland. Some of these repeats are deliberately built into the course of study; others are dependent upon the special training and abilities of the teachers.

Now may I introduce a phase often overlooked? A well trained geographer in doing most of his research work again comes back to *a* local area. Certainly local geography then becomes his *starting point* for that particular piece of work. But when we recognize the

* Delivered before the New York State Geographical Association Annual Meeting, Colgate University, April 24, 1948.

fact that he is at the extreme upper end of geography training then local geography may be regarded as a *finishing point* as well as a *starting point.* Students of geography may well be expected to return to "local" areas again and again, each time better equipped with sound geographic techniques, and in possession of a greater understanding and appreciation of the areas termed as "local" by other inhabitants of this planet.

THE EQUIPMENT

What is the equipment, both material and mental, which must be supplied to the pupils in order that they *and society* may reap the greatest rewards from the study of local geography? Before we launch into a discussion of the equipment necessary it will be profitable to glance a moment at the needs which local geography must fulfill or satisfy. Let us visualize some students who have been given a thoro training in local geography.

I see a young lad, about fifteen years of age, walking along an old logging road. He knows the road runs in a north-south direction. The sandy soil exposures on the side of the road seem associated quite naturally with the pines on either hand. His occasional glances at the billowing cumulus clouds overhead cause him to quicken his pace to escape the coming thunderstorm. He recognizes the bird calls, and remembers how still this road was when he tramped thru the snow several months before.

Let us look at another student, a young girl, about sixteen years of age. She has a Saturday job in a local grocery store. She waits on Mike Romano, the shoemaker, Jon Johnson, the steel worker, Mrs. Murphy, the policeman's wife, as well as Mrs. Norton, the wife of the biggest industrialist in town.

This young girl clerk is conscious of the fact that the goods which she sells across the counter have come from many parts of the earth to this "local area." She is aware even more sharply of the different present environments and original homelands of the customers she serves. To her *the "local area" represents a coming together of the people and products of the world.*

The two rather simple examples just cited have been used to bring us to a recognition of what some of the end products of local geography might be.

If a third point should be developed along the line of needs which local geography could supply, let me hasten to stress the utility value of local geography. None of us will deny that the local

areas as well as the nations of the world need people trained in special geography fields. Teachers of local geography should always keep in mind the ever increasing demands for meteorologists, climatologists, cartographers, hydrographers and regional specialists. We must encourage superior students to undertake careers as controllers of flood, land planners, and all students should be enlightened on these phases of a community.

In the foregoing there has been an attempt to approach the general criteria of local geography by some homely example. If the statements were to be given in high sounding phrases they would probably be as follows.

THE GENERAL CRITERIA TO BE KEPT BEFORE THE TEACHER OF LOCAL GEOGRAPHY AT ALL TIMES

1. Knowledge of the weather and climate of the local area. There is no other course in the curriculum which has this as an express parf. A recent test given to Freshmen gave us a forward signal along this road. The test was divided into five parts:

I. The Earth in the Universe
II. Weather and Climate
III. The Landscape
IV. Earth Resources
V. The Where of It

The scores made on the part of the test devoted to Weather and Climate were decidedly lower than on the other sections. May I ask? "Can the teacher of local geography supply this need—, fill this gap? Should she?"

2. Information about the local landscape, including such factors as soil, natural vegetation, animal life and other natural resources.

3. Knowledge of the economic life of the community, including its trade and transportation as they are related to the first two points.

4. The location and significance of the man-made features of the area; both past and present cultural factors, such as those related to religion, law, education and community welfare.

5. An appreciation of the peoples who inhabited the area in earlier times as well as appreciation for those who now comprise the population of the area. Points 4 and 5 provide tremendous motivation. All states have Indian lore in which to build interest. Thus a teacher then may bring in other world areas—Inca, Maya, Susa, Norsemen,—where earlier peoples built great civilizations.

6. Last, but not least, a determined, planned effort should be

made to utilize the geographer's tools, (maps, charts, graphs, diagrams, pictures), thruout the entire study.

In any program which includes the six general criteria set forth above there is the assumption that the teacher knows *first,* and quite well, the area under study. Preliminary work, reconnaisance, including both indoor reading and outdoor observation, must be done to obtain the best results. This preliminary work should be done before delegated work can be allocated to the pupils. City and township maps, road maps, weather maps, soil and vegetation maps all must become familiar tools. Certainly the *map made by the pupil* assumes great importance in a study of this kind. An extremely significant fact, quite often overlooked by many geographers, is this—*the general public always associates maps with any and all studies of geography.* Thus a local geography program, utilizing maps to the fullest extent; provides a perfect field for convincing the public of a community of the worth of geography.

All of the foregoing comments and suggestions about local geography may be applied to any so-named "area"; the equipment provided the pupils in this work should be such that it may be used in other world "local areas."

Pupils adequately trained in a local geography course should be able to walk or ride along a turnpike or major highway, a paved road, a dirt one, or even a trail, and have a sense of comfortable harmony with their environment. There should be a feeling of intimacy with the rocks and soil beneath their feet as well as with the grass, brush and trees growing about them. The birds that sing as these pupils pass by and the animals that graze or work in the fields should fit understandably into the picture of the local area. The pupils must realize the strengths and weaknesses of their community; the economic strongholds and the social weaknesses. The pupils should be able to meet their fellow residents—old and young, large and small, of all races, creeds and colors—and recognize them as being parts of the local environment and to appreciate the roles they play in it.

Conclusion

In conclusion,—if the geography teachers can conduct a satisfactory enterprise in the local geography fields, they can rest assured that their pupils are better equipped and able to understand the *other peoples* of the world as they, too, live, work and die in their "local areas."

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EARL B. SHAW, *President*

EDITORIAL NOTES AND NEWS

Ceylon, the newest dominion to enter the British Commonwealth of Nations, in spite of its severe physical limits is primarily an agricultural area. Much of the land is unsuitable for cultivation because it is too mountainous, too swampy, and in places covered with rocky, desert wastes. On the level more fertile parts of the island, in spite of primitive farming methods, crop yields are comparatively large. In many places because the fertility of the soil becomes quickly depleted fields are soon abandoned and new forest clearings are made. Rice is the most important crop grown, but the farmers cannot grow enough to feed the nearly seven million people who live on the island. Half of the rice annually consumed comes from India.

Some of the ubiquitous landscape features are wattle and clay farmhouses thatched with palm leaves, clearings of an acre or two in the forest, banana plants, paddy fields and century-old designed sari—the common dress.

DR. G. ETZEL PEARCY, geographer for Trans World Airlines, is spending the next couple of months in southern Europe and North Africa. He will gather material and prepare reports for TWA. At some future date these reports will be available to the public and should be of great interest to teachers.

Opening of the highly productive oil field at Leduc, near Edmonton, has stimulated exploration thruout the prairie provinces. More than 53,000,000 acres of prospective oil and gas lands are now under lease or reservation, with approximately four-fifths of the total in Alberta, and some 6,000,000 acres in Saskatchewan. Production in the Leduc field for 1948 already exceeds that of Turner Valley. It now appears probable that oil production next year will be sufficient to meet the requirements of the region.

DR. JOHN WESLEY COULTER has accepted an appointment on the Secretariat of the Trusteeship Division of the United Nations as Specialist on Pacific Islands and Pacific Asia. Dr. Coulter knows the Pacific first hand having been for thirteen years on the faculty of the University of Hawaii, where he was Head of the Department of Geography. In a recent article in the October number of the JOURNAL OF GEOGRAPHY he discussed "The United States Trust Territory of the Pacific Islands."

The Geography Department at the University of California, Los Angeles has twelve staff members, plus seven teaching assistants. The student enrollment is 1,800, including twenty-five graduate students.

A new and separate Department of Geography has been established at the University of Southern California. Mr. John W. Reith is the new geographer and is offering seven courses.

Dr. George T. Renner, Teachers College, Columbia University, will teach in the Department of Geography and Geology, Fresno State College, California in the summer of 1949.

The Association of Pacific Coast Geographers meets in Vancouver, B.C., June 13-16. If you are interested in the *News Letter* of this association write to V. Calvon McKim, Fresno State College, Fresno, California, for a copy.

Officers of the California Council of Geography Teachers are: President, Arthur Carthew, Los Angeles City College; Vice-President, Rex Brittingham, Ventura Junior College; Secretary-Treasurer, Lauren C. Post, San Diego State College; and Members at Large, Walter R. Hacker, San Francisco State College, George C. Kimber, Sacramento Junior College, V. Calvon McKein, Fresno State College and J. L. Taylor, Stanford University.

Lauren C. Post, Secretary-Treasurer of the California Council of Geography Teachers and editor of its official publication, *The Geography News Letter,* writes that the California Council of Geography Teachers will hold its annual meeting May 7 at Ventura Junior College. If you are interested in a copy of the January 19, 1949 *News Letter* write to Lauren C. Post, San Diego State College, California.

According to Dr. Post, the May program of the California Council "has been arranged with a view toward helping geography teachers with their problems, especially at the junior high school level. Geography in the natural science program, geography in the social science program and geography as an independent subject will be presented as taught by three teachers in those particular fields. Visual aids, field trips, and other materials are prominent in the program on which Dr. C. Langdon White of Stanford University, is to be the principal speaker."

Dr. Joseph E. Spencer of the Geography Department, University of California at Los Angeles, is doing field work in southeastern Asia.

During the past year members of the California Council of Geography Teachers completed four surveys on geography teaching in California. Two of these where published and the other two were distributed thru their official publication *The Geography News Letter.* The following surveys may be had by writing to Lauren C. Post, San Diego State College, California: Geography at the Junior College Level in California, by Arthur Carthew, Los Angeles City College; Geography at the College and University Level in California, by Homer Aschmann, University of California; Legal Aspects of Geography Teaching in California, by Lucy Valene Smith, Los Angeles City College; The Place of Geography in a General Education Program, by George C. Kimber, Sacramento Junior College.

Dr. William J. Talbot, University of Capetown, will be Visiting Professor at the University of California the spring semester. Professor Talbot will offer three courses: Geography of South Africa, Natural Resources and Their Exploitation, and a seminar. Professor C. Sauer will be away during the spring semester. There are about thirty graduate students in residence at the University of California.

November 13, 1948, one hundred members and friends of the Ohio Council of Geography met at Oberlin College, Oberlin, Ohio, for the annual fall meeting. Dr. Reuel Frost of Oberlin was host.

The following papers dealing with a variety of topics were presented at the morning session: Some Implications of Youngstown's New Social Studies Curriculum for Fourth, Fifth, Sixth, and Seventh Grades, Miss Ann Berich, Youngstown; A First-Hand Account of a Geographer's Work with the American Military Government in Germany, Miss Carolyn Wysor, Cleveland; Political Geography in the Schools of a Nation of Geographical Illiterates, Dr. James R. Beck, Kent; and The Meteorology of Ohio Cities, Mr. Lyle Fletcher, Bowling Green.

The afternoon field excursion was under the direction of Dr. Frost and was conducted in the vicinity of Oberlin. It was concerned with the settlement pattern of the Western Reserve, and showed how this pattern was affected by such factors as the land survey, the railroads, and all-weather ridge roads.

Miss Villa B. Smith of the John Hay High School in Cleveland and Secretary of the Ohio Council, writes that their next meeting will be held in May, 1949, the place to be announced later.

The 1949 officers of Gamma Theta Upsilon, National Professional Geography Fraternity, are: President, Warren Strain, State Teachers College, Slippery Rock, Pennsylvania; First Vice-President, Thomas Frank Barton, Indiana University, Bloomington and Secretary-Treasurer, Ina C. Robertson, State Teachers College, Valley City, North Dakota.

MR. C. W. SORENSON, now doing graduate work at the University of Chicago, has been employed to teach in the Department of Geography and Geology at the Illinois State Normal University, starting in September, 1949.

The present officers of the Illinois Council are: President, Dr. Floyd F. Cunningham; Secretary-Treasurer, Miss Annamarie Krause; Editor of the *Illinois Bulletin,* Professor Flemin W. Cox. All are from Southern Illinois University at Carbondale. Dr. H. O. Lathrop, Illinois State Normal University at Normal is an elected State Coordinator. The Illinois Council holds its annual meeting in May.

According to reports from the United States Department of Agriculture, permanent soil conservation measures were applied to 21,567,000 acres in the fiscal year 1948, which breaks all previous records in this field. In his annual report Chief H. H. Bennett writes that, if present efforts are sharply increased, soil erosion problems can be completely controlled in twenty to thirty years.

A recent report released by the Ohio River Sanitation Compact, contained some startling statistics about domestic water supply. For example, at low stage the Ohio River flows past Cincinnati at a rate of 8,000 cubic feet per second. One-fourth of this amount or 2,000 cubic feet comes directly from sewers. The source of the drinking water for Cincinnati is the Ohio River. If Pittsburgh uses its 82 million dollars earmarked for a sewage treatment plant the first big dose of Ohio River pollution will be removed. The Louisville Water Department has spent 1 million dollars for equipment to be used in removing the evil taste of chemicals in its drinking water which comes from the Ohio River.

After a long struggle for independence Eire has served the last constitutional thread which tied it to Britain. The last official break came when President O'Kelly signed the bill repealing the External Relations Act. The repeal of this act takes Eire

out of the British Commonwealth. A proclamation announcing the Republic of Ireland is expected early in 1949.

A new railroad bridge across the Oder River is expected to help increase traffic between the Baltic and southern Europe. It spans the Oder River on the Wodzislaw-Chalupki-Bogumin line between Poland and Czechoslovakia and was opened to traffic late last year. The bridge will aid in reducing time schedules between Gdynia and Ostrava.

From Brazil comes the report that nearly twice as much acreage is normally planted to corn than to coffee. Coffee and cotton acreage are about the same altho cotton ranks third. The biggest corn producing state last year was Minas Gerais where 911,502 hectares were planted to corn (a hectare is about 2½ acres).

From Berkeley, California comes a report that the cross-breeding of grasses may bring results to the range land west of the 100th meridian as great as hybrid corn to the corn belt. Thru cross-breeding experiments carried on at the University of California the features of seven different types of grasses have been combined into a single hybrid type. The new plants are larger, leafier and more vigorous than their ancestors.

According to Secretary of Interior Krug's 1948 report, the mines of the United States poured forth an astonishing, unprecedented wealth of about $15,620,000,000. Krug pointed out that the huge dollar volume resulted both from record tonnages and high commodity prices. However, tonnage was only up 4 per cent over 1947.

Antrycide, a white crystalline powder, is receiving widespread attention as a new synthetic drug which may enable Britain to build a new African empire. It is believed that this new drug will immunize and cure cattle of the diseases carried by the dreaded Tsetse fly. If the drug proves successful the British plan to use it extensively in Kenya, Uganda and the Sudan. At the present time the great grassland areas of Africa which are larger than the United States support only about 16 million head of scrubby inferior beef cattle. Were it not for disease African grasslands could graze more cattle than Argentina which raises about 33 million head. If cattle disease can be eliminated there is enough grass in British Africa to make it one of the greatest meat-producing areas in the world.

GEOGRAPHICAL PUBLICATIONS

Zoe A. Thralls. **The World: Its Lands and Peoples.** 486 pp., 88 maps and many pictures. Harcourt, Brace and Co., 1948.

The study of the living conditions and problems of people is presented in a setting of the world's climatic regions.

The work is divided into eleven units. After an introductory unit considering (1) the population pattern of the world, (2) the influence of the natural environment on living conditions and (3) the importance of the relationships between human activities and climate, each succeeding unit is concerned with a particular climatic region. Beginning with a consideration of people living in the low latitude rain forests, the study develops progressively poleward. The careful organization aims to avoid confusion in the student's mind.

Within each unit, separate chapters are devoted to the study of the people and lands of the different continental areas affected by similar climatic conditions. This tends to prevent erroneous ideas which often come from over-generalization within any world climatic region.

Five double page world maps show (1) distribution of people, (2) climatic regions, (3) average yearly rainfall, (4) physical features, (5) political divisions. Each unit opens with a smaller map of the world showing clearly the areas considered in the unit. Excellent regional maps and pictures provide the opportunity for careful study. The figure numbers of the maps and pictures are the same as the page numbers on which they appear. This simplifies reference to them.

Only experience in teaching and great skill could enable an author to put such a wealth of geographic relationships between the covers of one book. The descriptive material is not a mere collection of facts. Rather, the emphasis is on reasons and relationships. The explanatory parts of the text are interesting but seem to be included so that the students may find the answers to the questions which the study provokes. The study guides, the geography work shops, the attention given to building a geography vocabulary and the suggestions for further reading provide adequate material and ideas for study and teaching.

Miss Thralls assumes that the students and teachers have the ability to read maps. At the junior high school level this should be a correct assumption. In the second edition, a short supplement on the reading of Compressed Sinusoidal equal-area projection maps has been included.

Teachers should also be able to supplement and expand the ideas given in the last short chapter on the interdependence of peoples. Since Miss Thralls appears to have such good reasons for every idea included in her book, she no doubt has equally good reasons for any omissions. The book is very convenient in size and shape. The type and illustrations are clear. Only by choosing a unifying idea and holding to it has she been able to include such a wide field and focus the study so expertly on it.

ADAH FLEMINGTON

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Alfred J. Wright. **United States and Canada, an Economic Geography.** 481 pp. Appleton-Century-Crofts, Inc., New York. 1948. $4.50.

The *United States and Canada* is a well-organized and well-written economic geography of Anglo-America. Following a brief introduction there are three unequal sections: Part I, consisting of four chapters and 86 pages, consists of a functional treatment of the principal human activities; Part II, eleven chapters and 310 pages, treats the major geographic regions of the United States; and Part III, five chapters and 86 pages con-

siders Canada, Alaska, Newfoundland, Labrador, Greenland and The Territory of Hawaii.

The author is well grounded in both geography and economics and he does an excellent job of blending those disciplines as he stresses the dynamic nature of his subject. Chapter IV, "Manufacturing and Manufacturing Districts," and Chapter XIII, "Manufacturing in the Middle West" are especially well done. Every effort has been made to present recent and reliable data on the changes wrought during and since World War II. The reviewer has no significant criticism, altho he doubts the wisdom of treating North Dakota, The Texas Panhandle, Illinois, Upper Michigan, and the southern shore of Lake Erie in the same geographic region.

The text is replete with numerous well-chosen photographs and maps, the latter prepared by E. Willard Miller, Pennsylvania State College. It is somewhat shorter than comparable texts on North America or Anglo-America, and should be welcomed by those instructors who must cover this area in a three- or four-quarter hour course.

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